

IN THE CLAIMS:

- 1-21. (presently cancelled)
22. (newly added) A composition comprising an isolated nucleic acid encoding a mutant *Thermotoga neapolitana* DNA polymerase.
23. (newly added) The composition of Claim 22, wherein said mutant DNA polymerase comprises a mutation that reduces a 3'-5' exonuclease activity of said DNA polymerase.
24. (newly added) The composition of Claim 22, wherein said mutant DNA polymerase comprises a mutation that reduces a 5'-3' exonuclease activity of said DNA polymerase.
25. (newly added) The composition of Claim 22, wherein said mutant DNA polymerase comprises a mutation resulting in said DNA polymerase having reduced discrimination against dideoxynucleotides.
26. (newly added) The composition of Claim 22, wherein said DNA molecule is selected from the group consisting of pM284, pD323E, and pD323,389A.
27. (newly added) The composition of Claim 22, wherein said DNA molecule further comprises expression control elements.
28. (newly added) The composition of Claim 27, wherein said expression control elements comprise an inducible promoter.
29. (newly added) A method of producing a mutant *Thermotoga neapolitana* DNA polymerase, said method comprising:

- (a) culturing a cellular host cell comprising a gene encoding a mutant *Thermotoga neapolitana* DNA polymerase;
- (b) expressing said gene; and
- (c) isolating said mutant *Thermotoga neapolitana* DNA polymerase from said host cell.

30. (newly added) The method of Claim 29, wherein said host is *E. coli*.

31. (newly added) A recombinant host cell comprising a DNA sequence encoding a mutant *Thermotoga neapolitana* DNA polymerase having a mutation that substantially reduces or eliminates 3'-5' exonuclease activity of said polymerase, wherein said mutation is in the 3'-5' exonuclease domain of said polymerase, and further wherein said mutant *Thermotoga neapolitana* DNA polymerase is a Pol I-type DNA polymerase.

32. (newly added) A method of producing a mutant *Thermotoga neapolitana* DNA polymerase, said method comprising:

- (a) culturing a host cell comprising a gene encoding a mutant *Thermotoga neapolitana* DNA polymerase having a mutation that substantially reduces or eliminates 3'-5' exonuclease activity of said polymerase, wherein said mutation is in the 3'-5' exonuclease domain of said polymerase, and further wherein said mutant *Thermotoga neapolitana* DNA polymerase is a Pol I-type DNA polymerase;
- (b) expressing said gene; and
- (c) isolating said mutant *Thermotoga neapolitana* DNA polymerase from said host cell.

33. (newly added) An isolated DNA molecule comprising a DNA sequence encoding a mutant *Thermotoga neapolitana* DNA polymerase having a mutation that substantially reduces or eliminates 5'-3' exonuclease activity of said polymerase, wherein said mutation is in the 5'-3' exonuclease domain of said polymerase, and further wherein said mutant *Thermotoga neapolitana* DNA polymerase is a Pol I-type DNA polymerase.

34. (newly added) A recombinant host cell comprising a DNA sequence encoding a mutant *Thermotoga neapolitana* DNA polymerase having a mutation that substantially reduces